

Please type a plus sign (+) inside this box



PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 2

Complete If Known

Application Number 09/966,419
Filing Date September 27, 2001
First Named Inventor Vandenameele-Lepla, Patrick
Group Art Unit 2681 2662
Examiner Name Unassigned- hong cho
Attorney Docket Number 020798-002000US

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
hc	AA	5,912,876		H'mirry	08/15/99	
	AB	6,002,716		Mayer, et al.	12/14/99	
	AC	6,061,327		Demoulin, et al.	05/09/00	
hc	AD	6,141,393		Thomas, et al.	10/31/00	
	AE					
	AF					
	AG					
	AH					
	AI					
	AJ					
	AK					
	AL					
	AM					
	AN					
	AO					
	AP					

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ⁵ (if known)				
hc	AQ	EP	1030489	A1	Interuniversitair Micro-Elektronica	08/23/00		
	AR							
	AS							
	AT							
	AU							
	AV							
	AW							
	AX							

Examiner Signature	<i>[Signature]</i>	Date Considered	9/29/2005
--------------------	--------------------	-----------------	-----------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

SF 1293615 v1

Please type a plus sign (+) inside this box 

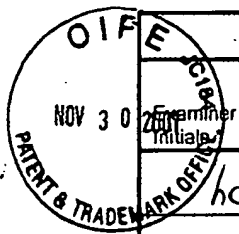
PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	09/966,419
		Filing Date	September 27, 2001
		First Named Inventor	Vandenameele-Lepla, Patrick
		Group Art Unit	2681 2662
		Examiner Name	Unassigned hong cho
		Attorney Docket Number	020798-002000US
Sheet	2	of	2



OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
hc	AY	Y. Li, L. J. Cimini and N.R. Sollenberger, "Robust Channel Estimation for OFDM Systems with Rapid Dispersive Fading Channels," <i>IEEE Trans. Commun.</i> , Vol. 46(7), pp. 903-915, July 1998	
	AZ	O. Edfords, et al., "OFDM Channel Estimation by Singular Value Decomposition", <i>IEEE Trans. Commun.</i> , Vol. 46(7), pp. 931-939, July 1998	
	BA	M. H. Hsieh and C.H. Wei, "Channel Estimation for OFDM Systems based on Comp-Type Pilot Arrangement in Frequency Selective Fading Channels", <i>IEEE Trans. Consumer Electr.</i> , Vol.44(1), pp. 217-225, Feb. 1998	
	BB	Ye Li, et al., "Channel Estimation for OFDM Systems with Transmitter Diversity in Mobile Wireless Channels", <i>IEEE J. Select. Areas Commun.</i> , Vol. 17(3), pp. 461-471, March 1999	
	BC	W. G. Jeon, et al. "An Equalization Technique for Orthogonal Frequency-Division Multiplexing Systems in Time-Variant Multipath Channels" <i>IEEE Trans. Commun.</i> , Vol. 47(1), pp. 27-32, Jan. 1999	
	BD	Marco Luise, et al. "Blind Equalization/Detection for OFDM Signals over Frequency-Selective Channels", <i>IEEE J. Select. Areas Commun.</i> , Vol. 16(9), pp. 1588-1578, Oct. 1998	
	BE	J. Ahn, et al. "Frequency Domain Equalisation of OFDM Signals over Frequency Nonselective Rayleigh Fading Channels" <i>Electronics Letters</i> , Vol. 29(16), pp. 1476-1477, pp. 1476-1477, Aug. 5, 1993	
	BF	Y. Sun and L. Tong, "Bandwidth efficient wireless OFDM", <i>Proc. 32nd Asilomar Conference on Signals, Systems and Computers</i> , Pacific Grove, CA, pp. 78-82, Nov. 1-4, 1998	
	BG	Y. Sun and L. Tong, "Channel Equalization using one-tap DFE for wireless OFDM Systems with ICI and ISI", <i>Proc. 2nd IEEE Signal Processing Workshop on Signal Processing Advances in wireless communications, SPAWC99</i> , pp. 146-149, May 9-12, 1999	
	BH	Y. Sun and L. Tong, "A lower ordered HMM approach to blind sequence estimation" <i>Proc. Conference on Military Communications, MILCOM'98</i> , Bedford, MA, pp. 847-851, Oct. 18-21, 1998	
	BI	Y. Sun and L. Tong, "A Channel-Whitening Blind Sequence Estimation Algorithm" <i>Proc. 1998 IEEE International Symposium on Information Theory, ISIT'98</i> , MIT, page. 180, August 18-21-, 1998	
	BJ	A. J. Redfern and G. T. Zhou, "Nonlinear Channel Identification and Equalization for OFDM Systems" <i>Proc. Intl. Conference on Acoustics, Speech, and Signal Processing (ICASSP'98)</i> Seattle, WA, pp. 3521-3524	
	BK	Simon Armour, et al. "Complexity Evaluation for the Implementation of a Pre-FFT Equalizer in and OFDM Receiver", <i>IEEE Intl Conf. on Consumer Electronics</i> , pp. 16-17, June 2000	
	BL	A. Papathanassiou, et al. "Novel Time-Domain Channel Estimation and Equalization for OFDM-based Wireless Indoor Communications Systems, <i>Information Society Technologies, Mobile Summit 2000</i> , Oct. 2000	
	BM	Jukka Rinne, et al. "An Improved Equalizing Scheme for Orthogonal Frequency Division Multiplexing Systems for Time-Variant Channels" <i>IEEE</i> , pp. 879-883, 1995	
hc	BN	P. Vandenameele, "Space Division Multiple Access for Wireless Local Area Networks" <i>Katholieke Universiteit Leuven</i> , Oct. 2000	

Examiner Signature		Date Considered	8/29/2005
--------------------	---	-----------------	-----------

¹ EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

² Unique citation designation number. ³ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.
SF 1293615 v1

Please type a plus sign (+) inside this box →



PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	09/966,419
		Filing Date	September 27, 2001
		First Named Inventor	Vandenameele-Lepla, Patrick
		Group Art Unit	2662
		Examiner Name	Hong cho
Sheet 3 of 43	Attorney Docket Number	020798-002000US	

RECEIVED
FEB 22 2002
Technology Center 2600

U.S. PATENT DOCUMENTS						
Examiner Initials *	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
hc	AA	5,912,876		H'mimy	08/15/99	
I	AB	6,002,716		Mayer et al.	12/14/99	
	AC	6,061,327		Demoulin et al.	05/09/00	
hc	AD	6,141,393		Thomas et al.	10/31/00	

FOREIGN PATENT DOCUMENTS						
	Document No.	Date	Country	Class	Sub-class	Translation (Yes/No)
hc AE	EP 1 030 489 A1	23.08.2000	EPO	A1		NA

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS				
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		
hc	AF	VANDENAMEELE, "Space Division Multiple Access for Wireless Local Area Networks," IMEC, October 2000, Catholic University, Leuven, Belgium		
	AG	U, ET AL., "Robust Channel Estimation for OFDM Systems with Rapid Dispersive Fading Channels," IEEE Transactions on Communications, July 1998, Vol. 46, No. 7, pp. 902-915		
	AH	JEON, ET AL., "An Equalization Technique for Orthogonal Frequency-Division Multiplexing Systems in Time-Variant Multipath Channels," IEEE Transactions on Communications, January 1999, Vol. 47, No. 1, pp. 27-32		
	AI	LUISE, ET AL., "Blind Equalization/Detection for OFDM Signals over Frequency-Selective Channels," IEEE Journal on Selected Areas in Communications, October 1998, Vol. 16, No. 8, pp. 1568-1578		
	AJ	HSIEH, ET AL., "Channel Estimation for OFDM Systems Based on Comb-Type Pilot Arrangement in Frequency Selective Fading Channels," IEEE Transactions on Consumer Electronics, February 1998, Vol. 44, No. 1, pp. 217-225		
	AK	LI, ET AL., "Channel Estimation for OFDM Systems with Transmitter Diversity in Mobile Wireless Channels," IEEE Journal on Selected Areas in Communications, March 1999, Vol. 17, No. 3, pp. 461-471		
hc	AK	EDFORS, ET AL., "OFDM Channel Estimation by Singular Value Decomposition," IEEE Transactions on Communications, July 1998, Vol. 46, No. 7, pp. 931-939		

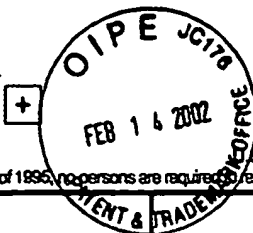
Examiner Signature	<i>Hong cho</i>	Date Considered	2/29/05
--------------------	-----------------	-----------------	---------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.
SF 1312955 v1

Please type a plus sign (+) inside this box →



PTO/SB/088 (08-00)

Approved for use through 10/31/2002. OMB 0851-0031

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	09/966,419
		Filing Date	September 27, 2001
		First Named Inventor	Vandenameele-Lepla, Patrick
		Group Art Unit	2662
		Examiner Name	Hong Cho
Sheet 4 of 4	Attorney Docket Number	020798-002000US	

RECEIVED

FEB 22 2002

Technology Center 2600

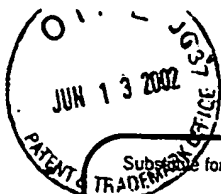
OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ₂
hc	AL	SUN, ET AL., "A Channel-Whitening Blind Sequence Estimation Algorithm," ISIT, August 18-21, 1998, in <i>Proc. 1998 IEEE International Symposium on Information Theory</i> , MIT, Cambridge, MA, IEEE, 1998, Vol. __, No. __, p. 180	
	AM	SUN, ET AL., "A Lower Ordered HMM Approach to Blind Sequence Estimation," IEEE, 1998, Vol. __, No. __, pp. 847-851	
	AN	SUN, ET AL., "Channel Equalization Using One-Tap DFE for Wireless OFDM Systems with ICI and ISI," in <i>Proc. 2nd IEEE Signal Processing Workshop on Signal Processing Advances in Wireless Communications</i> , SPA WC'99 Annapolis, MD, May 8-12, 1999, IEEE, 1999, Vol. __, No. __, pp. 148-149	
	AO	AHN, ET AL., "Frequency Domain Equalisation of OFDM Signals over Frequency Nonselective Rayleigh Fading Channels," ELECTRONICS LETTERS, 5th August 1993, Vol. 29, No. 18, pp. 1476-1477	
	AP	SUN, "Bandwidth Efficient Wireless OFDM," in <i>Proc. 32nd Asilomar Conference on Signals, Systems, and Computers</i> , Pacific Grove, CA, No. 1-4, 1998, IEEE, Vol. __, No. __, pp. 78-82	
	AQ	REDFERN, ET AL., "Nonlinear Channel Identification and Equalization for OFDM Systems," in <i>Proc. Intl. Conference on Acoustics, Speech, and Signal Processing</i> , ICASSP '98, Seattle, WA, IEEE, Vol. __, No. __, 1998, pp. 3521-3524	
	AR	RINNE, ET AL., "An Improved Equalizing Scheme for Orthogonal Frequency Division Multiplexing Systems for Time-Variant Channels," in <i>Proc. IEEE Global Telecommunications Conference Globecom '95</i> , Singapore, IEEE, Vol. __, No. __, 1995, pp. 879-883	
	AS	ARMOUR, ET AL., "Complexity Evaluation for Implementation of a Pre-FFT Equalizer in an OFDM Receiver," IEEE International Conference on Consumer Electronics, June 2000, IEEE, Vol. __, No. __, 2000, pp. 16-17	
hc	AT	PAPATHANANASSIOU, ET AL., "Novel Time-Domain Channel Estimation and Equalization for OFDM-Based Wireless Indoor Communications Systems," <i>Information Society Technologies, Mobile Summit 2000</i> , October 2000	

Examiner Signature	<i>Hong Cho</i>	Date Considered	8/29/05
--------------------	-----------------	-----------------	---------

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.
SF 1312955 v1



Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete if Known	
		Application Number	09/966,419
Sheet 1 of 1		Filing Date	September 27, 2001
		First Named Inventor	Vandenameele-Lepia, Patrick
		Art Unit	Unassigned 2662
		Examiner Name	Unassigned hong cho
		Attorney Docket Number	020798-002000US

COPY OF PAPERS
ORIGINALLY FILED

U.S. PATENT DOCUMENTS					
Examiner	Cite No. ¹	Document Number Number Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
hc	AA	US-5,282,222	01/25/1994	Fattouche et al.	
hc	AB	US-5,487,069	01/23/1996	O'Sullivan et al.	
	AC	US-			
	AD	US-			
	AE	US-			
	AF	US-			
	AG	US-			
	AH	US-			
	AI	US-			
	AJ	US-			
	AK	US-			
	AL	US-			
	AM	US-			
	AN	US-			
	AO	US-			
	AP	US-			
	AQ	US-			
	AR	US-			
	AS	US-			
	AT	US-			

RECEIVED

JUN 24 2002

Technology Center 2800

Examiner Signature	<i>Hong Cho</i>	Date Considered	8/29/2005
--------------------	-----------------	-----------------	-----------

¹ EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

² Applicant's unique citation designation number (optional). ³ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.
SF 1352409 v1